

MATERIAL SAFETY DATA SHEET  
Revision Date: 11/17/2003

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SECTION 1            PRODUCT AND COMPANY   IDENTIFICATION  
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PRODUCT:   SHELLZONE AF/C Prediluted 50/50  
MSDS NUMBER: 400930L - 2  
PRODUCT CODE(S):    5060208, 94067

MANUFACTURER ADDRESS: SOPUS Products, P.O. Box 4427, Houston, TX.   77210-4427

TELEPHONE NUMBERS

Spill Information: (877) 242-7400  
Health Information: (877) 504-9351  
MSDS Assistance Number:   (877) 276-7285

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SECTION 2            PRODUCT/INGREDIENTS  
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CAS#	CONCENTRATION	INGREDIENTS
Antifreeze/Coolant		
107-21-1	45 - 54.99 %weight	Ethylene Glycol
7732-18-5	45 - 54.99 %weight	Deionized water

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SECTION 3            HAZARDS IDENTIFICATION  
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EMERGENCY OVERVIEW

Appearance & Odor: Fluorescent green liquid. Mild odor.  
Health Hazards: May be harmful or fatal if swallowed. Do not induce vomiting.  
May cause aspiration pneumonitis.   May cause CNS depression.  
NFPA Rating (Health, Fire, Reactivity): 2, 1, 0  
Hazard Rating: Least - 0        Slight - 1        Moderate - 2        High - 3  
Extreme - 4

Inhalation:

In applications where vapors (caused by high temperature) or mists (caused by mixing or spraying) are created, breathing may cause a mild burning sensation in the nose, throat and lungs.

Eye Irritation:

May cause slight irritation of the eyes.   If irritation occurs, a temporary burning sensation, minor redness, swelling, and/or blurred vision may result.

Skin Contact:

May cause slight irritation of the skin.   If irritation occurs, a temporary burning sensation and minor redness and/or swelling may result.   Other adverse effects not expected from brief skin contact.

**Ingestion:**

This material may be harmful or fatal if swallowed. Ingestion may result in vomiting; aspiration (breathing) of vomitus into lungs must be avoided as even small quantities may result in aspiration pneumonitis. Contains ethylene glycol and/or diethylene glycol which are toxic when swallowed. A lethal dose for an adult is 1 ml per kilogram or about 4 ounces (1/2 cup). Severe kidney damage can occur as a result of ingestion. May cause Central Nervous System (CNS) depression.

**Other Health Effects:**

Refer to Section 11, Toxicological Information, for specific information on the following effects:

**Developmental Toxicity****Primary Target Organs:**

The following organs and/or organ systems may be damaged by overexposure to this material and/or its components:

Kidney, Liver

**Signs and Symptoms:**

Irritation as noted above. Aspiration pneumonitis may be evidenced by coughing, labored breathing and cyanosis (bluish skin); in severe cases death may occur. Early to moderate CNS depression may be evidenced by giddiness, headache, dizziness and nausea. In extreme cases, unconsciousness and death may occur. Kidney damage may be indicated by changes in urine output or appearance, pain upon urination or in the lower back or general edema (swelling from fluid retention). Liver damage may be indicated by loss of appetite, jaundice (yellowish skin and eye color), fatigue and sometimes pain and swelling in the upper right abdomen.

**Aggravated Medical Conditions:**

Pre-existing eye, skin, respiratory, liver and kidney disorders and may be aggravated by exposure to this product.

For additional health information, refer to section 11.

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**SECTION 4 FIRST AID MEASURES**

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**Inhalation:**

If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.

**Skin:**

Flush exposed area with water and follow by washing with soap if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.

**Eye:**

Flush eyes with plenty of water while holding eyelids open. Rest eyes for 30 minutes. If redness, burning, blurred vision or swelling occur, transport to nearest medical facility for additional treatment.

**Ingestion:**

DO NOT take internally. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs. Get medical attention.

## Note to Physician:

Ethylene Glycol (EG) and Diethylene Glycol (DEG) intoxication may initially produce behavioral changes, drowsiness, vomiting, diarrhea, thirst, and convulsions. EG and DEG are nephrotoxic. End stages of poisoning may include renal damage or failure with acidosis. Supportive measures, supplemented with hemodialysis if indicated, may limit the progression and severity of toxic effects. For ETHYLENE GLYCOL POISONING, intravenous ethanol is a recognized antidotal treatment; other antidotal treatments also exist for ethylene glycol poisoning.

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SECTION 5 FIRE FIGHTING MEASURES

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Flash Point [Method]: >239 °F/>115 °C [Cleveland Open Cup]

## Extinguishing Media:

Use water fog, 'alcohol foam', dry chemical or carbon dioxide (CO2) to extinguish flames. Do not use a direct stream of water.

## Fire Fighting Instructions:

Material will not burn unless preheated. Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots), including a positive pressure, NIOSH approved, self-contained breathing apparatus.

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SECTION 6 ACCIDENTAL RELEASE MEASURES

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## Protective Measures:

May burn although not readily ignitable.

Wear appropriate personal protective equipment when cleaning up spills. Refer to Section 8.

## Spill Management:

Shut off source of leak if safe to do so. Dike and contain spill.

FOR LARGE SPILLS: Remove with vacuum truck or pump to storage/salvage vessels.

FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for proper disposal.

## Reporting:

U.S. regulations require reporting releases of this material to the environment which exceed the reportable quantity to the National Response Center at (800) 424-8802.

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SECTION 7 HANDLING AND STORAGE

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**Precautionary Measures:**

Avoid heat, open flames, including pilot lights, and strong oxidizing agents. Use explosion-proof ventilation to prevent vapor accumulation. Ground all handling equipment to prevent sparking. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

**Storage:**

Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures.

**Container Warnings:**

Keep containers closed when not in use. Containers, even those that have been emptied, can contain explosive vapors. Do not cut, drill, grind, weld or perform similar operations on or near containers.

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**SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

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Ethylene Glycol      ACGIH TLV      Ceiling: 100 mg/m3  
Ethylene Glycol      OSHA PEL - 1989(revoked)      Ceiling: 50 ppmv

**EXPOSURE CONTROLS**

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Eye washes and showers for emergency use.

**PERSONAL PROTECTION**

Personal protective equipment (PPE) selections vary based on potential exposure conditions such as handling practices, concentration and ventilation. Information on the selection of eye, skin and respiratory protection for use with this material is provided below.

**Eye Protection:**

Chemical Goggles - If liquid contact is likely., or Safety glasses with side shields

**Skin Protection:**

Use protective clothing which is chemically resistant to this material. Selection of protective clothing depends on potential exposure conditions and may include gloves, boots, suits and other items. The selection(s) should take into account such factors as job task, type of exposure and durability requirements.

Published literature, test data and/or glove and clothing manufacturers indicate the best protection is provided by:  
Neoprene, or Nitrile Rubber

**Respiratory Protection:**

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, an approved respirator must be worn. Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Types of respirator(s) to be considered in the selection process include:

For Mist: Air Purifying, R or P style NIOSH approved respirator.

For Vapors: Air Purifying, R or P style prefilter & organic cartridge, NIOSH approved respirator. Self-contained breathing apparatus for use in

environments with unknown concentrations or emergency situations.

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SECTION 9            PHYSICAL AND CHEMICAL PROPERTIES

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Appearance & Odor:    Fluorescent green liquid. Mild odor.  
Substance Chemical Family:    Ethylene Glycols  
Appearance:    Fluorescent green liquid.

Boiling Point:    388 °F

Flash Point:    > 239 °F [Cleveland Open Cup]

Freezing Point:    -34 °F

Odor:    Mild odor.

pH:    10.2 - 11

Specific Gravity:    1.06 - 1.09

NOTE:    The freezing and boiling point values reflect a 50% solution in water at atmospheric pressure.

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SECTION 10           REACTIVITY AND STABILITY

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Materials to Avoid:  
Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products:  
Thermal decomposition products are highly dependent on combustion conditions. A complex mixture of airborne solids, liquids and gases will evolve when this material undergoes pyrolysis or combustion.    Acids, Aldehydes, Carbon Monoxide, Carbon Dioxide, Ketones  
and other unidentified organic compounds may be formed upon combustion.

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SECTION 11           TOXICOLOGICAL INFORMATION

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Acute Toxicity

    Dermal LD50    9.5 g/kg (Rabbit)    OSHA: Non-Toxic    Based on components(s)

    Oral LDLo    1 ml/kg (Human)    OSHA: Non-Toxic    Based on components(s)

Carcinogenicity Classification

Antifreeze/Coolant

    NTP: No    IARC: Not Reviewed    ACGIH: No    OSHA: No

Developmental Toxicity

Oral exposure of pregnant rats and mice to ethylene glycol has produced birth defects in the offspring.

Kidney

Ingestion of ethylene glycol can cause bladder stones and kidney damage which can be fatal.

## Liver

Prolonged and repeated ingestion of ethylene glycol has produced liver damage in rats.

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SECTION 12 ECOLOGICAL INFORMATION

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## Environmental Impact Summary:

There is no ecological data available for this product.

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SECTION 13 DISPOSAL CONSIDERATIONS

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## RCRA Information:

Under RCRA, it is the responsibility of the user of the material to determine, at the time of the disposal, whether the material meets RCRA criteria for hazardous waste. This is because material uses, transformations, mixtures, processes, etc. may affect the classification. Refer to the latest EPA, state and local regulations regarding proper disposal.

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SECTION 14 TRANSPORT INFORMATION

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## US Department of Transportation Classification

This material is not regulated under 49 CFR if in a container of 119 gallon capacity or less. If shipped in a container of over 119 gallon capacity then the DOT information must be accompanied with RQ notation, or, an otherwise 'Not Regulated' product will be classified as Environmentally Hazardous (solid/liquid) N.O.S., Class 9, Packing group III unless the product qualifies for the petroleum exemption (49 CFR 171.8).

Hazardous Substance/Material RQ: Ethylene glycol / 10539.7068 lbs

## International Air Transport Association

Hazard Class/Division: 9 (Miscellaneous)

Identification Number: UN3082

Packing Group: III

Proper Shipping Name: Environmentally Hazardous Substances, Liquid, N.O.S.

Technical Name(s): Ethylene Glycol

## International Maritime Organization Classification

Hazard Class/Division: 9 (Miscellaneous)

Identification Number: UN3082

Packing Group: III

Proper Shipping Name: Environmentally Hazardous Substances, Liquid, N.O.S.  
Technical Name(s): Ethylene Glycol

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SECTION 15 REGULATORY INFORMATION

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FEDERAL REGULATORY STATUS

OSHA Classification:

Product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Comprehensive Environmental Release, Compensation & Liability Act (CERCLA):

Ethylene Glycol RQ 5000 lbs Reportable Spill => 10540 lbs or 1264 gal

Potassium hydroxide RQ 1000 lbs Reportable Spill => 266667 lbs or 31986 gal

Ozone Depleting Substances (40 CFR 82 Clean Air Act):

This material does not contain nor was it directly manufactured with any Class I or Class II ozone depleting substances.

Superfund Amendment & Reauthorization Act (SARA) Title III:

There are no components in this product on the SARA 302 list.

SARA Hazard Categories (311/312):

Immediate Health:YES Delayed Health:NO Fire:NO Pressure:NO

Reactivity:NO

SARA Toxic Release Inventory (TRI) (313):

Ethylene Glycol

Toxic Substances Control Act (TSCA) Status:

All component(s) of this material is(are) listed on the EPA/TSCA Inventory of Chemical Substances.

Other Chemical Inventories:

Component(s) of this material is (are) listed on the Australian AICS, Canadian DSL, Chinese Inventory, European EINECS, Korean Inventory, Philippines PICCS,

State Regulation

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

New Jersey Right-To-Know Chemical List:

Ethylene Glycol (0878) 45 - 54.99 %weight Special Hazard

Pennsylvania Right-To-Know Chemical List:

1,2-Ethanediol (107-21-1) 45 - 54.99 %weight Environmental Hazard

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SECTION 16 OTHER INFORMATION

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Revision#: 2

Revision Date: 11/17/2003

Revisions since last change (discussion): This Material Safety Data Sheet (MSDS) has been reviewed to fully comply with the guidance contained in the ANSI MSDS standard (ANSI Z400.1-1998). We encourage you to take the opportunity to read the MSDS and review the information contained therein.

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SECTION 17 LABEL INFORMATION

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READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT. THIS LABEL COMPLIES WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200) FOR USE IN THE WORKPLACE. THIS LABEL IS NOT INTENDED TO BE USED WITH PACKAGING INTENDED FOR SALE TO CONSUMERS AND MAY NOT CONFORM WITH THE REQUIREMENTS OF THE CONSUMER PRODUCT SAFETY ACT OR OTHER RELATED REGULATORY REQUIREMENTS.

PRODUCT CODE(S): 5060208, 94067

SHELLZONE AF/C Prediluted 50/50

WARNING!

MAYBE HARMFUL OR FATAL IF SWALLOWED. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION.

MAY CAUSE DAMAGE TO: Kidney, Liver

Refer to Section 11, Toxicological Information, for specific information on the following effects:  
Developmental Toxicity

Precautionary Measures:

Avoid prolonged or repeated contact with eyes, skin and clothing. Avoid breathing of vapors, fumes, or mist. Do not take internally. Use only with adequate ventilation. Avoid contact with eyes, skin and clothing. Keep container closed when not in use. Wash thoroughly after handling.

FIRST AID

Inhalation: If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.

Skin Contact: Flush exposed area with water and follow by washing with soap if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.

Eye Contact: Flush eyes with plenty of water while holding eyelids open. Rest eyes for 30 minutes. If redness, burning, blurred vision or swelling occur, transport to nearest medical facility for additional treatment.

Ingestion: DO NOT take internally. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs. Get medical attention.

## FIRE

In case of fire, Use water fog, 'alcohol foam', dry chemical or carbon dioxide (CO2) to extinguish flames. Do not use a direct stream of water.

## SPILL OR LEAK

Dike and contain spill.

FOR LARGE SPILLS: Remove with vacuum truck or pump to storage/salvage vessels.

FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for proper disposal.

CONTAINS: Ethylene Glycol, 107-21-1; Deionized water, 7732-18-5

NFPA Rating (Health, Fire, Reactivity): 2, 1, 0

## TRANSPORTATION

US Department of Transportation Classification

This material is not regulated under 49 CFR if in a container of 119 gallon capacity or less. If shipped in a container of over 119 gallon capacity then the DOT information must be accompanied with RQ notation, or, an otherwise 'Not Regulated' product will be classified as Environmentally Hazardous (solid/liquid) N.O.S., Class 9, Packing group III unless the product qualifies for the petroleum exemption (49 CFR 171.8).

Hazardous Substance/Material RQ: Ethylene glycol / 10539.7068 lbs

CAUTION: Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes from residues. Do not pressurize or expose to open flames or heat. Keep container closed and drum bungs in place.

## Name and Address

SOPUS Products  
P.O. Box 4427  
Houston, TX 77210-4427

## ADMINISTRATIVE INFORMATION

MANUFACTURER ADDRESS: SOPUS Products, P.O. Box 4427, Houston, TX.  
77210-4427

Company Product Stewardship & Regulatory Compliance Contact: Timothy W Childs  
Phone Number: (713) 241-1524

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